

NOTES ON THE BREEDING BIRDS OF STATE COLLEGE,
CENTER COUNTY, PENNSYLVANIA

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These notes supplement an article which was published in the WILSON BULLETIN (June and September, 1924, Vol. XXXVI, No. 2 and 3) dealing with migration records from Center County, Pennsylvania. They cover the same period, from September, 1914, through May, 1917, and the spring of 1919, as well also as the summer of 1920. While the larger number of my breeding records were taken in Center County, some of the rarer species, such as the Northern Pileated Woodpecker, could be found only well back in the mountains and a number of my best records were the result of week ends spent at Charter Oak, approximately ten miles south of State College, and in Huntingdon County. All other localities mentioned refer to Center County. No migration records are here included, nor is there need to touch on the topography of this region again. For the sake of uniformity the same nomenclature is used as in the previous article, accepted changes in scientific names being disregarded at this time until the new Check-List appears.

PIED-BILLED GREBE. *Podilymbus podiceps*. There being no previous published record of this species breeding in the state I was rather interested to find a pair nesting on the pond at Scotia in 1917. The nest, when found on May 14, held six slightly incubated eggs, and was a floating mass of decaying vegetation attached to a bush at one end of the pond where the water was two feet deep. The eggs were in a slight but well defined hollow in the top, and were covered entirely from sight by a layer of wet half-decomposed grasses and reeds. Both birds were heard, but were not seen.

GREAT BLUE HERON. *Ardea herodias herodias*. A few of these birds probably breed well back in the mountains for they have been seen there late in the spring, but at present I know of no definite breeding record for this species here.

GREEN HERON. *Butorides virescens virescens*. This species is rather scarce here as a breeding bird, and I never actually found a nest, although an occasional bird seen during the spring months left no question in my mind as to its nesting in rather limited numbers.

VIRGINIA RAIL. *Rallus virginianus*. This species is a plentiful summer resident here, being especially abundant in the large Center Furnace Swamp and in a smaller swamp at Oak Hall. My earliest breeding record is a nest found May 12, 1919, with eleven fresh eggs,

but full sets of fresh eggs, varying in number from seven to eleven, can always be found by the middle of the month. The nests are usually well concealed in the thick marsh grass, and are slightly cupped substantial beds of pieces of reeds and cat-tails and, rarely, the marsh grass.

SORA RAIL. *Porzana carolina*. This species is even more plentiful than the preceding, and is so similar in so far as its breeding habits are concerned that nests can be recognized with certainty only by the appearance of the eggs. As with the Virginia Rail my earliest breeding record is a nest found May 12, 1919, with ten slightly incubated eggs, while full sets of fresh eggs, varying in number from eight to twelve, can always be found by the middle of the month.

WOODCOCK. *Philohela minor*. This species breeds only well back in the mountains, but is fairly plentiful in the wet meadows about Charter Oak. My first nest found there April 15, 1917, held four fresh eggs, and was a slight depression lined with dead leaves between two blue beech saplings at the edge of a marshy field and a short distance out from some underbrush. Another nest found April 6, 1919, held four incubated eggs, and was at the foot of a small white pine in the middle of a marshy field overgrown with underbrush. It was merely a hollow in the deep marsh grass lined with dry pine needles and a few grasses.

UPLAND PLOVER. *Bartramia longicauda*. One or two pairs of these fine birds could be found each spring in the large open fields about the town, but I was never fortunate enough to find a nest. They are undoubtedly on the verge of extinction here, and it will be only a few years before they are gone.

SPOTTED SANDPIPER. *Actitis macularia*. This species breeds sparingly about the few streams in the open valley, and is far less common than one would expect to find it here.

KILLDEER. *Oxyechus vociferus*. This species is a rather plentiful breeding bird here, occurring in many of the open fields about the town. My first nest, found April 26, 1916, held four incubated eggs, and was merely a slight hollow in the middle of a gravel bar at the side of a small stream in an open field. Another nest found April 30, 1919, held four well incubated eggs, was at the upper end of a large open field and on a slight slope, and was a slight depression in the ground lined with crushed fragments of weed stems.

RUFFED GROUSE. *Bonasa umbellus umbellus*. This species breeds only on the mountain ridges, and is of but casual occurrence in the open valleys. In 1917 two nests were found about Charter Oak, one

on the 6th of May with eleven slightly incubated eggs, and one on the 11th of May with twelve somewhat incubated eggs. Both were in fairly open woods, and were mere hollows in the dead leaves at the base of one of the larger trees. These birds drum here as early as the first of March, and on warm days can be heard as late as the first of October.

WILD TURKEY. *Meleagris gallopavo silvestris*. This fine game bird still survives in fair numbers in the mountains of central Pennsylvania, and I was favored with frequent glimpses of single birds or small flocks, although I never did succeed in finding a nest. My largest flock was that of twelve birds seen October 5, 1916, feeding at the side of a trail well up a mountainside. At dusk on the 5th of April, 1919, two were watched going to roost in the top of a large white pine in a secluded ravine, flying with considerable noise into the upper branches where they were at once well concealed.

MOURNING DOVE. *Zenaidura macroura carolinensis*. This species is quite plentiful here during the summer months, being found in many of the orchards and scattered short stretches of woods. My earliest breeding record is that of a nest found April 12, 1917, with two slightly incubated eggs, while other nests have been noted at frequent intervals between that date and the last of May. Each invariably held two eggs, and varied in height from four to fifteen feet from the ground, the usual situation being a crotch of a limb of an apple tree, or of a black willow or a haw (*Crataegus*) at the edge of a field.

TURKEY VULTURE. *Cathartes aura septentrionalis*. These birds are fairly plentiful here during the summer months, and unquestionably rear their young on the rugged mountain sides that offer many suitable nesting sites, but I have never been fortunate enough to stumble on a nest, although at intervals I have searched carefully for one.

MARSH HAWK. *Circus hudsonius*. This species is a rather uncommon and irregular breeding bird here, and although seen throughout the year I never succeeded in finding a nest.

COOPER'S HAWK. *Accipiter cooperi*. This species is one of the commonest of the birds of prey that breed here, nesting both in the open valleys and well back in the mountains. A nest found at Charter Oak on May 4, 1919, held five fresh eggs and was forty-five feet from the ground in the top of a white pine on a ridge covered with fairly open second growth timber. Another found close by on May 11 held five somewhat incubated eggs, and was fifty feet from the ground in a large white pine in a thickly wooded ravine. Both were large and

substantially built of small sticks and twigs, the slight hollow in the top being well lined with flakes of bark.

SHARP-SHINNED HAWK. *Accipiter velox*. This species breeds rather sparingly here, an occasional pair being found in wooded ravines well back in the mountains where hemlocks predominate. Only once have I noted them nesting in a stretch of pine woods in the open valley, and hardwoods are apparently shunned entirely.

BROAD-WINGED HAWK. *Buteo platypterus*. This species is rarely if ever seen in the open valleys, but is a fairly plentiful breeding bird on the mountain sides and in the wooded ravines. On May 11, 1917, two nests were found about Charter Oak, one with three slightly incubated eggs and the other with two fresh eggs. The latter was up thirty feet from the ground in the top of a pitch pine, and was rather loose and delapidated, evidently a few sticks having been merely added to an ancient Crows' nest and lined with small flakes of bark. Another nest found at Charter Oak on May 18, 1919, held two slightly incubated eggs and was thirty-five feet from the ground in a crotch of a sugar maple at the side of a stream in a ravine. It was well built of sticks, with a lining of flakes of bark and a few sprays of hemlock.

SPARROW HAWK. *Cerchneis sparveria sparveria*. Unlike the other breeding hawks this species shows no liking for the mountain sides, and is found entirely in the scattered short stretches of woods in the open valleys. Here, however, it is quite plentiful, there being few stretches of woods without one pair at least. I have found numerous nests, and have noted with interest the uniformity with which these birds breed. All have held full sets of fresh eggs, five, with the exception of one that had but four, between the 7th and the 10th of May, and all but one have been in natural cavities in the larger trees standing in an open field or at the edge of a short stretch of woods, varying in height from twenty to thirty-five feet from the ground. One pair had chosen an old Flickers' hole in the top of an old decayed stub standing well out in an open field, but a natural cavity is almost invariably given preference over any other situation. The depth of the cavity will vary from a few inches to at times fully two feet, the eggs lying on fragments of rotted wood.

SCREECH OWL. *Otus asio asio*. This species is a fairly common breeding bird here, nesting both in the scattered short stretches of woods and in the numerous old apple orchards. Two nests were found April 10, 1919, in both four somewhat incubated eggs, and both in cavities of apple trees at the edge of small orchards. One was an old

Flicker's hole but five feet from the ground, while the other was a natural cavity fifteen feet from the ground, large but very shallow.

GREAT HORNED OWL. *Bubo virginianus virginianus*. This species breeds in many of the wooded ravines well back in the mountains, but natural cavities in the larger trees are seemingly preferred to old hawks' nests, and I never had sufficient luck to find an occupied nest.

YELLOW-BILLED CUCKOO. *Coccyzus americanus americanus*. This species is fairly plentiful here in the open valleys. A nest found June 5, 1916, held three slightly incubated eggs, and was three feet from the ground in a small wild crabapple tree in a thicket at the edge of a short stretch of woods. It was loosely built of twigs, lined with fragments of dead leaves.

BLACK-BILLED CUCKOO. *Coccyzus erythrophthalmus*. This species is possibly as common as the preceding, and like it is seen very largely in the open valleys. A nest found May 27, 1916, held three slightly incubated eggs, and was six feet from the ground in a small red haw in a thicket at the edge of an open field. Another found a week or so later, on the 6th of June, held three small young in various stages of growth and one well incubated egg, and was five feet from the ground in a bush in a stretch of thick underbrush.

BELTED KINGFISHER. *Ceryle alcyon alcyon*. This species is plentiful here, and seen during the summer months about many of the numerous small streams in the open valley. A nest found May 10, 1916, held seven slightly incubated eggs, and was at the end of a four foot hole in a low bank facing a creek, a foot down from the top of the ground and four feet up from the water. Usually no nesting material is in evidence, but in this case the eggs were lying on a bed of fragments of the hard outer shells of crawfish.

HAIRY WOODPECKER. *Dryobates villosus villosus*. This species is a common breeding bird here, nesting both in the open valleys and well back in the mountains. Old orchards are favored spots during the spring months, the two nests that were found being both in apple trees in orchards, and within ten feet of the ground. One, on April 30, 1917, held four well incubated eggs, while the other, on May 6, 1919, held four fresh eggs. In each case the female was incubating and refused to flush, being finally removed from the nest by hand.

DOWNY WOODPECKER. *Dryobates pubescens medianus*. This species is fairly common here, and like the preceding shows a marked preference for old orchards not only during the spring months but during the larger part of the year. A nest found May 14, 1919, held

six well incubated eggs, and was fifteen feet from the ground in a dead limb of a large apple tree. The male was incubating, and as is characteristic with this sex flushed even before the tree was reached.

NORTHERN PILEATED WOODPECKER. *Phloeotomus pileatus abieticola*. It was on the 19th of October, 1915, that I saw one of these birds for the first time, although gradually I found they were fairly plentiful in the thicker stretches of woods on the mountain sides. My first nest was found at Charter Oak on the 11th of May, 1917, held on that date four slightly incubated eggs, and was forty feet from the ground in the trunk of a living white oak in open second growth timber part way up the side of a ravine. That they at times nested earlier than this was shown several years later when, on the 11th of May, 1919, a nest was found that held two newly hatched young, one hatching egg, and one egg that was infertile. It was twenty-five feet from the ground in the top of an old rotten pitch pine stub at the top of a ridge in fairly open second growth timber, with a cavity in spite of, or possibly because of, the rotten wood but ten inches deep. Another nest that on the 18th of May, 1919, held four practically fresh eggs was thirty feet from the ground in the trunk of a large living chestnut oak part way up a mountain side, and was unusually large, with a cavity fully two feet deep. In each case the female flushed readily when the tree was rapped, but usually remained close by protesting at my intrusion.

RED-HEADED WOODPECKER. *Melanerpes erythrocephalus*. This species is quite plentiful here in the scattered short stretches of woods in the open valley about the town, but entirely wanting in the mountains. A nest found May 30, 1916, held four fresh eggs, and was thirty feet from the ground in a dead limb of a large black oak at the edge of a short stretch of woods. Another that on June 9, 1916, held four slightly incubated eggs was fifteen feet from the ground in a dead limb of an apple tree in an orchard.

NORTHERN FLICKER. *Colaptes auratus luteus*. This species is quite plentiful here, and found practically everywhere except in the thickest stretches of woods. The majority of the birds are incubating full sets of seven or eight eggs by the latter part of May, my earliest breeding record being that of a nest that on the 13th of May, 1917, held eight fresh eggs, and was six feet from the ground in the trunk of an apple tree at the edge of an open field.

WHIP-POOR-WILL. *Antrostomus vociferus vociferus*. This species occurs rather sparingly in the open valleys, but is plentiful in the

mountains where at dusk late in May it can frequently be heard "singing" on all sides.

NIGHTHAWK. *Chordeiles virginianus virginianus*. This species is one of the scarcest of the breeding birds here, and although a few were seen during the summer months I never succeeded in finding a spot where they were nesting.

CHIMNEY SWIFT. *Chaetura pelagica*. This species is a plentiful breeding bird here, especially about the town where the larger chimneys offer many suitable nesting sites. During the latter part of September thousands appear late each afternoon to roost in a chimney of one of the college buildings.

RUBY-THROATED HUMMINGBIRD. *Archilochus colubris*. This species is fairly plentiful here during the summer months, although seen more frequently about the town than in the mountains.

KINGBIRD. *Tyrannus tyrannus*. This species is a plentiful breeding bird here, few of the numerous orchards being without at least one pair. A nest found June 6, 1916, held four fresh eggs, and was twenty feet from the ground at the outer end of a limb of an apple tree at the edge of an orchard. That two broods are at times raised is evidenced by another nest found in much the same situation on July 4 of the same year that held two slightly incubated eggs.

CRESTED FLYCATCHER. *Myiarchus crinitus*. This species is less plentiful than the preceding but like it is found largely about the orchards where numerous cavities offer suitable nesting sites. Only rarely is it seen in the scattered short stretches of woods or on the mountain sides.

PHOEBE. *Sayornis phoebe*. This species is a plentiful breeding bird here, occurring practically everywhere there is a suitable nesting site. A favorite spot is a beam under a bridge crossing a stream, although old sheds, ledges of low cliffs and eaves of unoccupied buildings are frequently chosen. Two and frequently three broods are reared each year, my extreme dates being a nest found April 24, 1915, with five fresh eggs, and one that on June 4, 1916, held five slightly incubated eggs. The nests vary little in construction, being compactly built of green moss, a few grasses, wool when available, and mud, lined with fine grasses and horse hair.

WOOD PEWEE. *Myiochanes virens*. This species is also a plentiful breeding bird here, occurring in many of the scattered short stretches of woods about the town. A nest found June 9, 1916, held

three slightly incubated eggs, and was thirty feet from the ground at the outer end of a limb of a large white oak at the edge of a short stretch of woods.

LEAST FLYCATCHER. *Empidonax minimus*. This species is a rather scarce breeding bird here, and rarely seen during the summer months.

PRAIRIE HORNED LARK. *Otocoris alpestris praticola*. During the winter months this species occurs here in small restless flocks feeding in the open fields or on the roads, but early in March these flocks begin to break up, and by the middle of the month scattered pairs can be found in many of the open fields and pastures. I have seen singing males soaring overhead as early as the 11th of March, and it is no uncommon occurrence to find well incubated eggs with the ground white with snow. A nest found March 26, 1919, held five slightly incubated eggs, and was sunken level with the ground at the edge of a large field. It was compactly built of rootlets, weed stems and grasses, well lined with chicken feathers. Another found the same day held young fully a week old, and was far less substantially built of crushed fragments of weed stems and a little wool, although as before sunken flush with the ground in an open field.

BLUE JAY. *Cyanocitta cristata cristata*. This species is rarely seen in the scattered stretches of woods about the town, but is fairly plentiful well back in the mountains. A nest found at Charter Oak on May 6, 1917, held six fresh eggs, and was twenty-five feet from the ground at the outer end of a limb of a large white pine at the edge of a clearing in the woods. It was compactly built of twigs, weed stems and grasses, lined with fine black rootlets.

NORTHERN RAVEN. *Corvus corax principalis*. This species, one of the remnants of a vanished wilderness, still manages to survive in the less accessible mountain valleys, and while not increasing in numbers should be safe from actual extermination for a number of years yet. My first nest was found near Charter Oak, March 11, 1917, when there was still a foot of snow on the ground, and held on that date five fresh eggs. It was sixty-five feet from the ground near the top of a large white pine deep in the woods, and was compactly built of sticks, twigs and strips of bark, lined with soft inner shreds of bark and wool. The incubating bird apparently flushed before I reached the tree, but both soon appeared and showed considerable resentment at my intrusion, circling low overhead and croaking almost continuously. Another nest found March 22, 1919, held three incubated eggs, and was built on a

ledge of a cliff in a rugged gap in the mountains but three miles southwest of the town of State College. This nest had been used in previous years so was rather large, but otherwise, except for deer hair in the lining, was in construction much like the first.

CROW. *Corvus brachyrhynchos brachyrhynchos*. This species is an abundant breeding bird here, being found during the spring months in practically all the short stretches of woods in the open valley, and in many of the wooded ravines well back in the mountains. Possibly two broods are at times reared each year, for while full sets, varying in number from four to six eggs, can always be found the latter part of March and the first of April it is not uncommon to find fresh eggs late in May. My extreme breeding records are a nest that on March 29, 1917, held six slightly incubated eggs, and a nest that on May 20, 1919, held four fresh eggs. Nests varied in height from fifteen feet to at times fully sixty feet from the ground, the average, however, being between twenty-five and forty feet, and were in almost any hardwood or conifer that offered sufficient protection and concealment. Two situations chosen that were somewhat out of the ordinary were a large black willow standing alone at the edge of a pond, and a small wild crabapple tree in a thicket well out in an open field.

STARLING. *Sturnus vulgaris*. This species first appeared in Center County on the 29th of February, 1916, four birds being seen that day feeding at the edge of an open field. It was the following year, however, before the first pair nested here, although they were almost at once fairly plentiful, and are now one of the commonest breeding birds in and about the town. My first nest, found May 1, 1917, held five slightly incubated eggs, and was twenty feet from the ground in a cavity of a tree standing in the middle of an open field. Like others seen later it was rather bulkily built of coarse grasses and feathers. In 1919 these birds nested much earlier for a nest found on the 29th of April held four well incubated eggs, while in another, on the 6th of May, there were six half grown young.

BOBOLINK. *Dolichonyx oryzivorus*. This species is a fairly plentiful breeding bird here, nesting late in May in the open fields about the town.

COWBIRD. *Molothrus ater ater*. This species is by no means plentiful here during the summer months, and only at infrequent intervals have I found its eggs in nests of the smaller birds. My earliest breeding record is that of a single fresh egg found in a Phoebe's nest on May 3, 1917, that also held three fresh eggs of the rightful owner.

RED-WINGED BLACKBIRD. *Agelaius phoeniceus phoeniceus*. This species is a very plentiful breeding bird here, small colonies nesting in many of the scattered swamps and marshy meadows about the town. Domestic duties are well under way by the middle of May, and it is possible then, and until the first of June, to find eight or ten nests with eggs, in marshes of more or less limited area. My earliest breeding record is a nest that held four fresh eggs on May 12, 1919, although I have never failed to find full sets of four, or rarely three, fresh eggs by the 16th of that month. Nests vary but little in situation, being either in the cat-tails or in the thick marsh grass, and are built of reeds, pieces of cat-tails and the marsh grass, with a lining of fine grasses and, at times, a little horse hair.

MEADOWLARK. *Sturnella magna magna*. This species is plentiful here during the summer months, breeding in many of the open fields about the town. A nest found May 19, 1919, held six fresh eggs, and was sunken a little in the ground in a clump of green grass near the middle of a large field of winter wheat.

ORCHARD ORIOLE. *Icterus spurius*. This species is a fairly plentiful breeding bird here, occurring during the summer months in many of the scattered apple orchards. A nest found June 6, 1916, held four slightly incubated eggs, and was twenty feet from the ground at the outer end of a limb of an apple tree near the edge of an orchard.

BALTIMORE ORIOLE. *Icterus galbula*. This species is more plentiful than the preceding, and while fairly common about the town shows a like preference for old apple orchards. A nest found June 5, 1916, held five fresh eggs, and was but six feet from the ground at the extreme end of a limb of an apple tree in an orchard.

PURPLE GRACKLE. *Quiscalus quiscula quiscula*.

BRONZED GRACKLE. *Quiscalus quiscula aeneus*. Both these species are equally plentiful here, and as they nest together, and even at times interbreed, it is only by actually collecting the incubating bird that a nest could be satisfactorily identified. Old apple orchards are favored spots during the spring months, although scattered pairs can be found throughout the town, nesting in the upper branches of such trees as Norway spruces and cottonwoods. Only once have I noted them colonizing, fifteen pairs being found on May 7, 1919, nesting in the upper branches of a large white pine standing at the edge of an open field. The nests varied from twenty-five feet to fully fifty feet from the ground, and were invariably at the outer ends of the larger limbs. A

few held young several days old, while in the others there were eggs either fresh or in various stages of incubation. But one brood is reared each year, my extreme breeding records being a nest that on April 29, 1919, held six slightly incubated eggs, and one that on May 12, 1919, held five fresh eggs.

GOLDFINCH. *Astragalinus tristis tristis*. As it is the latter part of July before this species breeds here my experience with it was rather limited, but I found it quite plentiful during my one summer, 1920, at State College. My first nest, found August 1, held on that date five fresh eggs, while in the following three weeks seven other nests with eggs were, with little effort, located in and about the town, the latest, on August 19, holding six slightly incubated eggs. They varied in height from six to forty feet from the ground, the average being between fifteen and twenty feet, and there was apparently little preference for any certain tree, other than that conifers were consistently avoided. All were compactly built of gray plant fibres, shreds of bark, fine weed stems and plant down, well lined with thistle down and, in one case, horse hair.

ENGLISH SPARROW. *Passer domesticus*. This undesirable but persistent species is plentiful in and about the town, and nests everywhere and in quite varied situations. Apple orchards are favored spots, and unless well out in the open country such species as Bluebirds and Crested Flycatchers are soon driven away. Natural cavities are usually selected, although where these are scarce large unsightly nests are built in the upper branches. My extreme breeding records are a nest that on April 15, 1916, held five fresh eggs, and one that on August 13, 1920 held four half grown young. This latter nest was somewhat out of the ordinary, an old Robins' nest on a beam against the side of a building having been merely well lined with large chicken feathers, and no attempt made to arch over the top with grasses and weed stems.

VESPER SPARROW. *Poöecetes gramineus gramineus*. This species is plentiful during the summer months in the open fields about the town. My earliest breeding record is a nest found April 30, 1919, that held four fresh eggs, and was in a depression in the ground in a thick clump of grass at the edge of a large open field. Other years it has been the first week in May before full sets of fresh eggs were found, and in 1916 I found my first nest with four slightly incubated eggs as late as the 16th of May. Nests are rather unsubstantially built of weed stems, rootlets and grasses, with a lining of finer grasses and horse hair.

SAVANNAH SPARROW. *Passerculus sandwichensis savanna*. This species breeds very sparingly in a few of the larger open fields about the town, but I personally was never fortunate enough to find or actually see a nest.

GRASSHOPPER SPARROW. *Ammodramus savannarum australis*. This inconspicuous little sparrow is plentiful during the summer months in the open fields and pastures about the town. A rather late breeding record is that of a nest found July 28, 1920, that held three fresh eggs, and was sunken in the ground, and very well concealed, in the middle of a large open field.

HENSLOW'S SPARROW. *Passerherbulus henslowi henslowi*. At present this species is known to breed at only one spot here, a marshy meadow in the open valley near Charter Oak. I have noted it there each year the latter part of April or the first of May, but while several nests have been found I was never fortunate enough to actually see one.

CHIPPING SPARROW. *Spizella passerina passerina*. This species is a plentiful summer resident here, both about the town and in the open valleys. Such conifers as the red cedar are given preference as a nesting site, but apple orchards are seldom without at least one pair, and bushes at the edges of thickets are chosen at times. The nests are never over ten feet from the ground, and often up but a foot or two. Fresh eggs can always be found by the middle of May, my earliest breeding record being a nest that on May 11, 1916, held four fresh eggs.

FIELD SPARROW. *Spizella pusilla pusilla*. This species is an equally plentiful summer resident here, with a preference for fields and pastures overgrown more or less with scrubby underbrush. Old apple orchards, however, are likewise much favored. The nests found were usually on the ground, fairly well concealed in thick clumps of grass or weeds, an exception being one that was five feet up in a small bushy red cedar at the edge of an open field. My earliest breeding record is a nest that on May 13, 1916, held four fresh eggs, the others noted being between that date and the first of June.

SONG SPARROW. *Melospiza melodia melodia*. This species is quite plentiful here during the summer months about thickets and underbrush bordering open fields. Two and possibly three broods are reared each year, and it is interesting to note that the first nests are invariably on the ground, well concealed in thick grass or weeds, while in

late spring and early summer the nests are built in bushes or vines often as much as six feet from the ground. My extreme breeding records are a nest that on May 4, 1916, held five slightly incubated eggs, and one that on August 8, 1920, held three fresh eggs.

TOWHEE. *Pipilo erythrophthalmus erythrophthalmus*. The distribution of this species here proved somewhat of a surprise to me for it consistently avoids, during the summer months, thickets and underbrush in the open valleys and breeds only on the more open mountain sides. A nest found May 28, 1916, held five incubated eggs, and was on the ground at the foot of a small laurel bush in scrubby underbrush at the top of a ridge.

CARDINAL. *Cardinalis cardinalis cardinalis*. This species is fairly plentiful in the ravines well back in the mountains where the dense rhododendron thickets afford suitable conditions, but like the preceding is never seen in the more open valleys.

INDIGO BUNTING. *Passerina cyanea*. This species is a plentiful summer resident in the more open valleys, occurring about thickets and underbrush in the scattered short stretches of woods. It breeds rather late, my earliest record being a nest that held three fresh eggs on June 9, 1916.

SCARLET TANAGER. *Piranga erythromelas*. This species is fairly plentiful during the summer months on the mountain sides but is never seen then in the stretches of woods in the open valleys.

CLIFF SWALLOW. *Petrochelidon lunifrons lunifrons*. This species is rather scarce here as a breeding bird for I know of but two small colonies, one at Oak Hall and the other near Charter Oak, that return each year to the same barns. At the latter spot four nests were noted on June 4, 1916, three practically built and the other with three fresh eggs.

BARN SWALLOW. *Hirundo erythrogastra*. This species is a plentiful summer resident in the open valleys, there being few barns on the scattered farms in which at least one pair cannot be found nesting then. Fresh eggs can usually be found shortly after the middle of May, my earliest breeding record being a nest that on May 18, 1916, held five slightly incubated eggs.

TREE SWALLOW. *Iridoprocne bicolor*. I know of but one spot where this species breeds here, the small pond at Scotia affording suit-

able nesting sites in several old stubs standing well out from the shore. I unfortunately was not aware at the time that two pairs were nesting here each year, so have no definite data now to this effect.

ROUGH-WINGED SWALLOW. *Stelgidopteryx serripennis*. This species is fairly plentiful during the summer months in the open valleys, scattered pairs breeding in the low banks bordering the numerous small streams. A nest found May 30, 1916, held six slightly incubated eggs, and was at the end of a one foot hole in such a bank facing a shallow creek flowing through a pasture.

CEDAR WAXWING. *Bombycilla cedrorum*. This species is fairly plentiful here as a breeding bird but as it nests rather late in the spring my records are rather meager. A nest found July 4, 1916, held five somewhat incubated eggs, and was twenty feet from the ground in a crotch of one of the limbs of a tree on the college campus. It was rather shabbily built of twigs and catkins, with a lining of fine grasses.

RED-EYED VIREO. *Vireosylva olivacea*. This species is fairly plentiful during the summer months both in the scattered stretches of woods in the open valleys and on the mountain sides.

WARBLING VIREO. *Vireosylva gilva gilva*. This species is likewise plentiful during the summer months in the open valleys where it shows a decided preference for the larger willows fringing the streams. My one breeding record is that of a nest found May 31, 1916, that held four slightly incubated eggs, and was ten feet from the ground at the outer end of a limb of a large apple tree at the side of a road. It was compactly built of grasses, plant fibres, feathers and bits of wool, lined with fine grasses.

YELLOW-THROATED VIREO. *Lanivireo flavifrons*. Scattered pairs of these birds can be found during the summer months in the short stretches of woods in the open valleys where they nest in the upper branches of the larger trees.

BLUE-HEADED VIREO. *Lanivireo solitarius solitarius*. This species breeds very sparingly in the secluded ravines well back in the mountains and only about Charter Oak have I seen it during the summer months.

BLACK AND WHITE WARBLER. *Mniotilta varia*. This species is fairly plentiful during the summer months on the mountain sides but rarely ventures then into the open valleys.

WORM-EATING WARBLER. *Helminthos vermivorus*. I was rather interested to find this Carolinian bird far from scarce about Charter Oak, scattered pairs nesting in many of the wooded ravines.

GOLDEN-WINGED WARBLER. *Vermivora chrysoptera*. This species nests in overgrown clearings or pastures on the mountain sides, and is somewhat scarce as a breeding bird.

NORTHERN PARULA WARBLER. *Comptolhlypis americana pusilla*. I have seen this species during the summer months only about Charter Oak where a pair or two nest in the larger hemlocks bordering the streams.

YELLOW WARBLER. *Dendroica aestiva aestiva*. This species is a common summer resident in the open valleys, frequenting apple orchards and underbrush fringing the larger streams. My earliest breeding record is a nest that held five slightly incubated eggs on May 27, 1916, and was eight feet from the ground in a small apple tree at the edge of an orchard.

BLACK-THROATED BLUE WARBLER. *Dendroica caerulescens caerulescens*. This species can be found rather sparingly during the summer months in rhododendron thickets in ravines in the mountains.

CHESTNUT-SIDED WARBLER. *Dendroica pensylvanica*. This species is fairly plentiful during the summer months in clearings on the mountain sides that are partially overgrown with scrubby underbrush.

BLACKBURNIAN WARBLER. *Dendroica fusca*. This species breeds rather sparingly in the ravines in the mountains, scattered pairs being found during the summer months in the larger hemlocks and white pines bordering the streams.

BLACK-THROATED GREEN WARBLER. *Dendroica virens*. This species occurs in much the same situations as the preceding, but is far more plentiful and is frequently found well up the mountain sides.

PINE WARBLER. *Dendroica vigorsii*. This species can be found during the summer months on the open south slopes of the mountain ridges where it nests in limited numbers in the larger pitch pines that are scattered here and there.

OVEN-BIRD. *Seiurus aurocapillus*. This species is a plentiful summer resident on the mountain sides, but only during migrations ventures into the scattered stretches of woods in the open valleys.

LOUISIANA WATER-THRUSH. *Seiurus motacilla*. This species is a plentiful summer resident in the mountains, there being few streams

without at least one pair. A nest found May 16, 1919, in Laurel Run held five well incubated eggs, and was well concealed under a projecting root on a low bank at the side of a stream flowing through dense rhododendron thickets. It was rather bulkily built of dead leaves and grasses, lined with fine grasses.

MARYLAND YELLOW-THROAT. *Geothlypis trichas trichas*. This species is plentiful during the summer months in the open valleys, frequenting thickets and underbrush bordering the numerous streams.

YELLOW-BREASTED CHAT. *Icteria virens virens*. This species is plentiful during the summer months both in thickets and underbrush in the open valleys and in overgrown clearings on the mountain sides. My earliest breeding record is a nest found May 31, 1915, that held three fresh eggs, and was in a thicket at the edge of a short stretch of woods.

HOODED WARBLER. *Wilsonia citrina*. This handsome warbler is plentiful during the summer months in thickets of rhododendron and laurel on the mountain sides. Two nests that were found were both a few feet from the ground in small rhododendrons near streams. One held four fresh eggs on June 3, 1915, and the other four fresh eggs also on June 8, 1916.

CANADA WARBLER. *Wilsonia canadensis*. This species is a fairly plentiful summer resident here, and occurs in much the same situations as the preceding. A nest found June 3, 1915, held four slightly incubated eggs, and was very well concealed in a mass of dead leaves that had lodged in a few small shoots at the foot of a large tree growing at the side of a stream in a tangled rhododendron thicket.

REDSTART. *Setophaga ruticilla*. This species proved unexpectedly scarce as a breeding bird, but a very few being noted during the summer months in ravines in the mountains.

CATBIRD. *Dumetella carolinensis*. This species is a plentiful summer resident here, occurring in thickets and underbrush at the edges of the scattered short stretches of woods or bordering open fields. A characteristic breeding record, both as to date and situation, is a nest found May 29, 1915, that held five slightly incubated eggs, and was two feet from the ground in a small haw bush at the edge of a thicket.

BROWN THRASHER. *Toxostoma rufum*. This species is equally plentiful and occurs in much the same situations as the preceding. My earliest breeding record is a nest found May 7, 1915, that held four

slightly incubated eggs, and was five feet from the ground in a small wild crabapple tree in a thicket at the edge of a short stretch of woods. Only rarely is a nest placed on the ground, my one instance of such an occurrence being a nest that when found June 2, 1915, held four half grown young and was well concealed in a stretch of tall weeds in rather open woods.

BEWICK'S WREN. *Thryomanes bewicki bewicki*. This species breeds rather sparingly here, scattered pairs being found during the summer months about the old sheds or unoccupied houses where the nest is invariably built. A nest found May 18, 1919, at Charter Oak held seven slightly incubated eggs, and was under the eaves of a cabin at the side of a road near the foot of the mountain. It was compactly built of twigs, weed stems, pieces of rotten wood, and dead leaves, lined with bits of wool, chicken feathers, a few horse hairs, and fragments of a cast off snake skin.

HOUSE WREN. *Troglodytes aedon aedon*. This species is a plentiful summer resident here, occurring both in and about the town as well as in the numerous orchards in the open valleys. A characteristic breeding record, both as to date and situation, is a nest found May 31, 1916, that held six slightly incubated eggs, and was five feet from the ground in a cavity in the trunk of a large apple tree in an orchard.

WHITE-BREASTED NUTHATCH. *Sitta carolinensis carolinensis*. This species is one of the most characteristic birds of the scattered short stretches of woods in the open valleys, one pair at least, frequently two, being found in each one. Nesting is well under way by the middle of April, and by the latter part of that month or the first of May these birds are incubating full sets of from seven to nine eggs, the last being actually the commoner number. The nests are invariably in knot holes in the trunks of the larger trees, varying in height from fifteen to fifty feet from the ground, the cavity itself being six to eight inches in depth, and usually six inches from the entrance. The nests are substantial matted beds of soft shreds of inner bark and rabbits' fur, with rarely a little wool, cow hair, and chicken feathers. But one brood is reared each year. My earliest breeding record is that of a nest found April 27, 1917, that held eight slightly incubated eggs.

TUFTED TITMOUSE. *Baeolophus bicolor*. I found this species decidedly scarce here, but apparently slowly increasing in numbers, so it is possible that in time it may be fairly plentiful as a breeding bird.

CHICKADEE. *Penthestes atricapillus atricapillus*. This species is plentiful throughout the year on the mountain sides but, especially during the summer months, rarely ventures into the short stretches of woods in the open valleys. A nest found May 14, 1916, held seven fresh eggs, and was three feet from the ground in an old rotten poplar stub at the side of a road in a wooded ravine. Another, found May 18, 1919, at Charter Oak, held six slightly incubated eggs, and was four feet from the ground in a fence post at the edge of a clearing.

WOOD THRUSH. *Hylocichla mustelina*. This is another species that strangely enough shuns the scattered stretches of woods in the open valleys where conditions would seem entirely suitable for it to breed, and can be found during the summer months only in secluded ravines on the mountain sides. Here, however, it is fairly plentiful. Three nests noted June 3, 1915, held each four incubated eggs, and were five feet from the ground in rhododendrons near small streams.

ROBIN. *Planesticus migratorius migratorius*. This familiar bird is very plentiful here during the summer months, occurring everywhere there is any open country and avoiding only the deeper stretches of woods on the mountain sides. Two and possibly three broods are reared each year, my extreme breeding records being a nest with three slightly incubated eggs found April 16, 1919, and one that on July 4, 1916, held four fresh eggs. Full sets of three or four eggs, either number being equally common, can, however, be found at almost any time between these two dates. The nests are placed in almost any situation that affords sufficient concealment and protection, having been noted on the cross arms of telephone poles, on beams in sheds and barns, under bridges crossing small streams, on rain spouts under the eaves of buildings, as well as in practically any tree or bush, the height from the ground varying here from five to thirty feet.

BLUEBIRD. *Sialia sialis sialis*. This species is plentiful during the summer months both in the open valleys and about the farms well back in the mountains. Old apple orchards are favored spots in which to breed, while the scattered short stretches of woods usually offer sufficient inducements for at least one pair. Two and possibly three broods are reared each year, my extreme breeding records being a nest found April 16, 1915, that held five fresh eggs, and one that on August 1, 1920, held three somewhat incubated eggs.

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